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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,632	07/16/2003	Takeshi Sano	240111 US0	7462
22850	7590	09/02/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			LAM, CATHY FONG FONG	
			ART UNIT	PAPER NUMBER
			1775	

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/619,632

**Applicant(s)**

SANO ET AL.

**Examiner**

Cathy Lam

**Art Unit**

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 5-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 07-16-2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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***Election/Restrictions***

1. Claims 5-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected method and a device, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on July 26<sup>th</sup> 2005 is acknowledged.
2. This application contains claims 5-23 drawn to an invention nonelected with traverse in Paper No. filed on July 26, 2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

***Claim Rejections - 35 USC § 112***

3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is vague and indefinite as to what "humidity-curing property" is referring to?  
Clarification is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Chheang et al (US 6884833).

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Chheang discloses an anisotropically electrically conductive adhesive composition comprised of a polymeric adhesive component and an electrically conductive material (col 5 L 14-20).

The polymeric adhesive component includes an elastic/rubber material such as styrene-ethylene-butadiene-styrene block copolymers or polyurethane, etc. and a thermoplastic such as silicone resin and photocurable resins (col 6 L 1-8 & L 20-22).

The electrically conductive material is a filler material which may be a metal coated core material such can be a polymer, ceramic or glass, etc. (col 9 L 38-43). The metal coating can be silver, copper, nickel or gold, etc. (col 9 L 46-51). The electrically conductive filler can be characterized in various geometries such as oblong, acicular, flake shaped, etc. (col 10 L 35-38).

Chheang's adhesive composition has a hydrophobic character, that is it has a very low rate of moisture intake (col 7 L 36-39 & col 6 L 34-40). Since Chheang's adhesive composition may include photocurable resins, inherently it is a UV curable material (col 6 L 22).

6. Claims 1-2 and 4 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hanrahan (US 5738936).

Hanrahan discloses a thermally conductive composite comprised of a PTFE matrix, an elastomeric material and conductive particles.

The elastomeric material which can be silicone or polyurethane is imbibed into the PTFE matrix (col 3 L 62-65).

Thermally conductive particles such as Cu, Ni, Ag, etc. in the form of metal fiber, metal coated fiber or metal flakes, etc. are embedded within the PTFE/elastomer matrix (col 3 L 52-60).

Since Hanrahan teaches the same silicone resin in the composite, inherently Hanrahan's thermally conductive composite is UV curable and has the humidity-curing property.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaguchi et al (US 4701279) in view of Chheang et al (US 6884833) or Hanrahan (US 5738936).

Kawaguchi teaches an anisotropic electro-conductive adhesive comprised of a thermoplastic insulating adhesive and conductive particles.

The thermoplastic insulating adhesive comprised of rubber or thermoplastic elastomeric material (col 2 L 33-37). The electrically conductive particles are metal particles such as gold, silver, nickel, etc. and can take the shape of a fibrous or whisker form (col 4 L 14-22).

The electrically conductive particles are dispersed into the thermoplastic insulating adhesive (col 4 L 11-14).

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Kawaguchi also teaches that it is conventional that the thermoplastic insulating adhesive includes heat curable resins such as silicone resins (col 1 L 20-24).


Kawaguchi teaches the present invention except it does not teach the conductive particles were metal coated fibers.

In view of Chheang and Hanrahan's teaching, it would have been obvious to choose a metal coated fiber (or acicular particles) because they are obvious variant of one other and well known in the electro-conductive adhesive art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Cathy Lam  
Primary Examiner  
Art Unit 1775

cfl  
August 29, 2005